

CLAIMS

What is claimed is:

1. A low pressure mold assembly comprising:
a first mold portion;
a second mold portion engageable with said first mold portion;
a male lock member extending from said first mold portion; and
a female lock member slidable relative to said second mold portion, said female lock member including a lock plate having an opening to receive said male lock pin and secure said first mold portion to said second mold portion.
2. The mold assembly as recited in claim 1, wherein said male lock member includes a pin having a circumferential groove to receive said lock plate.
3. The mold assembly as recited in claim 2, wherein said a pin receives said groove in a substantially perpendicular relationship.
4. The mold assembly as recited in claim 1, wherein said male lock member includes a frustro-conical portion.
5. The mold assembly as recited in claim 1, wherein said opening is substantially key-hole shaped.
6. The mold assembly as recited in claim 1, wherein said opening includes a relatively larger opening to receive said pin and a relatively smaller opening to engage a circumferential groove about said pin.

7. The mold assembly as recited in claim 6, wherein said second mold portion includes an aperture to receive said pin, said lock plate slidable relative to said aperture.

8. The mold assembly as recited in claim 1, further including an actuator to drive said lock plate between a locked position and an unlocked position.

9. The mold assembly as recited in claim 8, wherein said actuator is mounted to said second mold portion and a second lock plate, said actuator operable to simultaneously said lock plate and said second lock plate between said locked position and said unlocked position.

10. A low pressure mold assembly comprising:
a first mold portion;
a second mold portion engageable with said first mold portion;
a lock pin having a circumferential groove, said lock pin extending from said first mold portion; and
a lock plate having a key-hole shaped opening slidable relative to an aperture through said second mold portion, said lock pin extendable through said aperture and said key-hole shaped opening such that said lock plate is engageable with said circumferential groove to secure said first mold portion to said second mold portion.
11. The mold assembly as recited in claim 10, wherein said a pin receives said groove in a substantially perpendicular relationship.
12. The mold assembly as recited in claim 10, wherein said male lock member includes a frustro-conical portion.
13. The mold assembly as recited in claim 10, further including an actuator to drive said lock plate between a locked position and an unlocked position.
14. The mold assembly as recited in claim 13, wherein said actuator is mounted to said second mold portion and a second lock plate, said actuator operable to simultaneously said lock plate and said second lock plate between said locked position and said unlocked position.

15. A low pressure mold assembly comprising:
a first mold portion;
a second mold portion engageable with said first mold portion;
a female lock member extending from said first mold portion; and
a male lock member including a linear actuator pivotable relative to said second mold portion, said linear actuator engageable with said female lock member to secure said first mold portion to said second mold portion.
16. The mold assembly as recited in claim 15, further including a stop to define a swing arc through which said linear actuator pivots.
17. The mold assembly as recited in claim 16, wherein said stop includes a telescopic member.
18. The mold assembly as recited in claim 15, wherein said female lock member includes a fixed bracket having a pair of parallel plates.
19. The mold assembly as recited in claim 18, wherein each of said parallel plates includes a substantially hook-shaped opening.
20. The mold assembly as recited in claim 15, wherein said linear actuator includes a terminal member to engage said female lock member.
21. The mold assembly as recited in claim 20, wherein said terminal member is substantially T-shaped.

22. The mold assembly as recited in claim 15, further including a common member interconnecting a plurality of said linear actuators.

23. The mold assembly as recited in claim 22, further including a swing actuator to drive said common member through a swing arc through which said plurality of linear actuator pivot.

24. A low pressure mold assembly comprising:
- a first mold portion;
 - a second mold portion engageable with said first mold portion;
 - a female lock member extending from said first mold portion, said female lock member including a pair of parallel plates, each having a substantially hook-shaped opening;
 - a male lock member including a linear actuator pivotable relative to said second mold portion, said linear actuator including a T-shaped engagement member engageable with said substantially hook-shaped openings to secure said first mold portion to said second mold portion; and
 - a swing actuator to pivot said linear actuator through a swing arc.
25. The mold assembly as recited in claim 24, further including a stop to define said swing arc.
26. The mold assembly as recited in claim 25, wherein said stop includes a telescopic member.
27. The mold assembly as recited in claim 24, further including a common member interconnecting a plurality of said linear actuators, said swing actuator operable to drive said common member through said swing arc.
28. The mold assembly as recited in claim 28, wherein a portion of said terminal member is receivable between said parallel plates.

UNITED STATES PATENT AND TRADEMARK OFFICE
DOCUMENT CLASSIFICATION BARCODE SHEET



Abstract

6

Level - 2
Version 1.1

03545240 "6249860

ABSTRACT OF THE DISCLOSURE

- [35] A lock assembly for a low pressure mold assembly includes a pin which extends from the first mold portion to be received into a female lock member. The female lock member includes a movable lock plate having a key-hole shaped opening. An actuator selectively moves the lock plate relative to the second mold portion between an unlocked and a locked position. In another embodiment, the lock assembly includes a female lock member mounted to the first mold portion and a male lock member mounted to the second mold portion. The female lock member includes a fixed bracket having a pair of parallel plates each having a substantially hook-shaped opening. The male lock member includes a linear actuator to drive an engagement member into and out of the hook-shaped opening to provide a locked and an unlocked position. A swing actuator drives the linear actuator through an arc such that the engagement portion of the linear actuator clears the female lock member to separate the mold portions.

N:\Clients\MASCO\IP00035\Patent\Masco035.doc